

Appln. No. 09/941,879
Amendment dated January 16, 2004
Reply to Office Action of September 3, 2003

REMARKS/ARGUMENTS

Reconsideration of the present application, as amended, is respectfully requested.

The September 3, 2003 Office Action and the Examiner's comments have been carefully considered. In response, the Abstract and drawings are amended, claims are cancelled and amended, and remarks are set forth below in a sincere effort to place the present application in form for allowance. The amendments are supported by the application as originally filed. Therefore, no new matter is added.

SPECIFICATION

In the Office Action, the Examiner reminds Applicants of the proper language and format for an Abstract of the Disclosure. In response, the Abstract of the Disclosure is amended in a sincere effort to more clearly comply with the requirements for an Abstract of the Disclosure.

DRAWINGS

During Applicants' study of the present application, it was discovered that a portion of Fig. 5 of the present application was not previously translated from Japanese to English. Fig. 5 is amended to include an English translation of the previously

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untranslated Japanese characters. Submitted herewith is an annotated sheet showing changes to Fig. 5 and a replacement sheet for Fig. 5. The amendments to Fig. 5 are supported by the application as originally filed (see originally filed Fig. 5 and page 15, lines 17-21 of the present application).

OBJECTION UNDER 35 USC 132

In the Office Action amended claim 1 is objected to under 35 USC 132 as introducing new matter. Specifically, the Examiner contends that some of the limitations added to claim 1 in the Amendment filed June 16, 2003 are not supported in the specification. Specifically, the Examiner points to the limitation "non-contiguous."

In response, Applicants state that the "non-contiguous" limitation is supported by the application as filed (see originally filed Figs. 1-3). However, in order to advance the prosecution of the application, claim 1 is amended to remove the wording which the Examiner contends adds new matter. Specifically, the limitation "non-contiguous" has been removed from claim 1. In view of the amendment of claim 1, reconsideration and withdrawal of the objection to claim 1 under 35 USC 132 are respectfully requested.

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REJECTION UNDER 35 USC 112

In the Office Action, claims 1-14 are rejected under the first paragraph of 35 USC 112 as failing to comply with the written description requirement. Specifically, the Examiner contends that the claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention. In response, Applicants state that the "non-contiguous" limitation was supported by the application as filed (see originally filed Figs. 1-3). However, in order to advance the prosecution of the application, claim 1 is amended to remove the wording which the Examiner contends is not supported by the original disclosure. In view of the amendment of claim 1, reconsideration and withdrawal of the rejection of claims 1-14 under the first paragraph of 35 USC 112 are respectfully requested.

PRIOR ART REJECTIONS

In the Office Action claims 1-3, 7-9 and 11-14 are rejected under 35 USC 103 as being unpatentable over USP 6,251,696 (Ikeya et al.) in view of the article by Richard et al. In addition,

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claims 4-6 and 10 are rejected under 35 USC 103 as being unpatentable over Ikeya et al. in view of Richard et al.

In response, claim 14 is cancelled and claim 1 is amended to more clearly define the present claimed invention over the cited references.

Amended claim 1 is directed to a sample assembly (10) for a thermoelectric analyzer which includes an electrically-insulating substrate (12) having a longitudinally-central region and two longitudinally-end regions; an adhesive layer (18) disposed on said longitudinally-central region and made of a material selected from a group consisting of indium and gold-tin alloy; a pair of junction electrode layers (24, 26) formed on said two longitudinally-end regions respectively with certain distances from said adhesive layer; a sample (14) fixed to said adhesive layer, said sample being for thermostatic analysis in which an electric property of said sample is measured as a temperature of said sample varies; a pair of electrode layers (20, 22) formed on a top surface of said sample; a first electrically-conductive wire (28) connecting one of said electrode layers with one of said junction electrode layers; and a second electrically-conductive wire (30) connecting the other of said electrode layers with the other of said junction electrode layers, wherein

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an electrical property of the sample is measured as a temperature of the sample varies.

The sample assembly of the present claimed invention forms an electric circuit from one junction electrode layer (24) to the other junction electrode layer (26). The order of connection includes junction electrode layer (24), electrically-conductive wire (28), electrode layer (20), sample (14), the other junction electrode layer (22), the other electrically-conductive wire (30) and the other junction electrode layer (26). As a result of the electrical coupling, the electrical property of the sample can be measured.

In the Office Action the Examiner states that Ikeya et al. (USP 6,251,696) discloses a sample assembly for a "thermoelectric analyzer". Ikeya et al., however, does not disclose a sample assembly for a "thermoelectric analyzer". A thermoelectric analyzer can measure an electrical property of a sample as the sample temperature varies. The thermoelectric analyzer includes TSC (Thermally Stimulated Current) and DEA (Dielectric Analysis: thermal relaxation measurement, see the present application). Ikeya et al. discloses measurement of resistance between two electrodes of an integrated circuit for evaluating a bonding condition, but does not disclose measurement of resistance during temperature variation.

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The present claimed invention has the advantage of good temperature uniformity, a small contact-electromotive force and a small thermoelectromotive force. Ikeya et al. does not disclose, teach or suggest these advantages because the reference does not relate to measurement of electrical characteristics of a sample during temperature variation.

Independent claim 1 has been amended to more clearly define the present claimed invention by more clearly reciting the electrically-insulating substrate, adhesive layer, pair of junction electrode layers, sample, pair of electrode layers, first electrically-conductive wire and second electrically-conductive wire, and stating that an electrical property of the sample is measured as a temperature of the sample varies. As mentioned above, in view of this configuration, the electrical properties of the sample can be accurately measured.

As stated above, the configuration as taught in Ikeya et al. measures the electrical resistance of the bonding region between the sample and the substrate. The electrical circuit of Ikeya et al. is very different from the electrical circuit of the present claimed invention. The structure taught by Ikeya et al. is not capable of measuring the electrical property of the sample as accomplished by the present claimed invention.

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That is, the present claimed invention as defined by amended claim 1 is patentable over Ikeya et al. because Ikeya et al. does not disclose, teach or suggest a sample assembly for a thermoelectric analyzer including an electrically-insulating substrate, an adhesive layer, a pair of junction electrode layers, a sample fixed to the adhesive layer, a pair of electrode layers, a first electrically-conductive wire and a second electrically-conductive wire wherein an electrical property of the sample is measured as a temperature of the sample varies as recited in amended claim 1.

Richard et al. do not close the gap between the present claimed invention as defined by amended claim 1 and Ikeya et al. In view of the foregoing, claim 1 is patentable over the cited references under 35 USC 102 as well as 35 USC 103.

Claims 2-13 are either directly or indirectly dependent on claim 1 and are patentable over the cited references in view of their dependence on claim 1.

Claims 4-7 and 9-12 are amended to place the claims in better consideration by the Examiner and to provide proper antecedent basis for limitations in the claims. The amendments are not related to the patentability of the claims.

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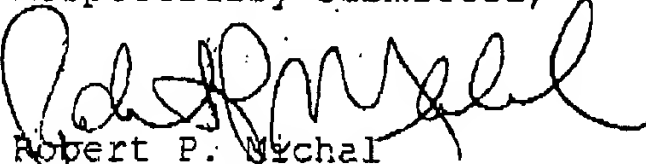
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In view of the foregoing, entry of this Amendment under the provisions of 37 C.F.R. 1.116, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner disagrees with any of the foregoing, the Examiner is respectfully requested to point out where there is support for a contrary view.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,


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Encls.: One Replacement Sheet of Drawings (Fig. 5)
One Annotated Sheet Showing Changes (Fig. 5)
Petition for Extension of Time
Request for Continued Examination (RCE) Transmittal